ABSTRACT

A control system of an internal combustion engine provided with a throttle valve passage air flow calculation equation by which the throttle valve passage air flow mt is expressed as a function of the downstream side intake pipe pressure at the downstream side of the throttle valve and a cylinder intake air flow calculation equation by which the cylinder intake air flow mc is expressed as a function of the downstream side intake pipe pressure, where said downstream side intake pipe pressure Pm and cylinder intake air flow mc when the throttle valve passage air flow mt found from said throttle valve passage air flow calculation equation and the cylinder intake air flow mc found from said cylinder intake air flow calculation equation match are calculated as the downstream side intake pipe pressure Pmta and cylinder intake air flow mcta at the time of steady operation under the operating conditions at that time is provided.